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N.D.E.A. TITLE V, ELEMENTARY SCHOOL GUIDANCE REPORT.
CENTRALIA SCHOOL DISTRICT, BUENA PARK, CALIF.

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DESCRIPTORS- DEMONSTRATION PROJECTS, *PERCEPTUALLY HANDICAPPED, *VISUAL PERCEPTION, *REMEDIAL PROGRAMS, *KINDERGARTEN CHILDREN, *RESEARCH PROJECTS, CONTROL GROUPS, EXPERIMENTAL GROUPS, STATISTICAL ANALYSIS, BENDER GESTALT TEST, WINTERHAVEN PERCEPT TEST TRAIN HANDBOOK, KUHLMANN ANDERSON INTELLIGENCE TEST, FROSTIG DVLMPTL TEST OF VISUAL PERCEPT.

THE PURPOSE OF THIS PROJECT WAS TO IDENTIFY KINDERGARTEN PUPILS WHO, WHEN COMPARED WITH OTHER CHILDREN OF THE SAME AGE AND SEX, EVIDENCED PROBLEMS IN THE AREA OF VISUAL PERCEPTION. TESTS USED TO MEASURE SUCH DEFICIENCIES WERE THE BENDER TEST AND THE FROSTIG TEST OF VISUAL PERCEPTION, SUB-TEST I AND III. MATCHED PAIRS WERE SELECTED FROM THE TOTAL GROUP SCREENED AND EXPERIMENTAL AND CONTROL GROUPS ESTABLISHED. EMPHASIS IN THE EXPERIMENTAL GROUP WAS PLACED UPON THE USE OF FROSTIG AND WINTERHAVEN TRAINING MATERIALS. MANY OTHER ACTIVITIES WERE USED WHICH RELATED TO THE DEVELOPMENT OF EYE-MOTOR COORDINATION, LATERALITY BALANCE, AND VISUAL PERCEPTION. THE PROJECT BEGAN WITH A SIX WEEK IN-SERVICE TRAINING PROGRAM FOR THE TEACHERS. DURING THE COURSE OF THE YEAR, THE PUPILS WERE TESTED WITH THE BALANCE OF THE FROSTIG BATTERY AND THE KUHLMANN-ANDERSON TEST. A MID-YEAR EVALUATION WAS MADE USING FROSTIG SUB-TEST I AND II. AND END-OF-YEAR EVALUATION USED THE ITEMS WHICH HAD BEEN INITIALLY ADMINISTERED FROM THE BENDER AND FROSTIG TESTS. GAINS IN FAVOR OF THE CONTROL GROUP WERE NOTED ON THE BENDER TEST WHILE GAINS ON THE FROSTIG SUB-TESTS WERE IN FAVOR OF THE EXPERIMENTAL GROUP. THE INVESTIGATORS BELIEVE THE RESULTS FROM THE PROJECT ARE ENCOURAGING. PICTURES, FORM COPIES, AND SUPPLEMENTARY MATERIALS ARE INCLUDED. (AUTHOR/PS)

ED018805

CENTRALIA SCHOOL DISTRICT
6625 La Palma Avenue, Buena Park, California

N.D.E.A. TITLE V

ELEMENTARY SCHOOL GUIDANCE REPORT

Report of the Kindergarten Project, 1965-66 School Year.

This report is an extension of the narrative report. Contained in this report is a complete description of the project, copies of forms used, pictorial description of materials used, and all supplementary materials.

The report is structured as follows:

I Introduction

II Listing of Objectives

III Planning Phase

IV Statistical Data Obtained

V Classroom Implementation

VI Summary

VII Conclusions

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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I. Introduction

The Centralia Elementary School District is a K-6 system. It is located in Buena Park, Orange County, California. Pupils are drawn from the communities of Buena Park, Anaheim, and La Palma. The current enrollment is approximately 7500 pupils who are housed in ten schools.

With the extension downward to the elementary level of N.D.E.A. funds for guidance under Title V, the Centralia District devised and had approved this project for the 1965-66 school year.

Staff personnel directly and/or indirectly involved in this project were:

Dr. Paul Doss, District Superintendent
Dr. Gerald Dart, Assistant-Superintendent of Instruction
(Now Supt. of the Lone Pine Unified District)
Mr. Wm. J. Morgan, Project Director
Mr. Bill Williams, Guidance Consultant
Mr. Al Hiltscher, Principal, Walter Knott School
Mrs. LaVeta Sandefur, Teacher
Mrs. Shirley McCourt, Teacher
Miss Georgia Bray, Teacher

We are especially indebted to the teachers who were responsible for implementing the program in the classroom and to our secretary, Mrs. Jettie Mueller, and clerks who functioned behind the scenes. Also, to Mrs. Betty Comings and Mrs. Verlyn Hurd who assisted with our initial testing.

II. Objectives

The project under which funds were obtained was designed to identify preschool children who would be beginning their kindergarten year in the fall semester of the 1965-66 school year.

The objectives were:

1. To identify, at the kindergarten level, children who, when compared with children of a comparable chronological age, sex, and socio-economic level evidenced deficiencies in the areas of auditory and/or visual perception, laterality, and eye-motor coordination with such deficiencies not being clearly attributed to mental deficiency, visual or auditory loss or obvious organic impairment.

2. By additional diagnostic evaluation, which would closely follow kindergarten placement, determine as specifically as possible the nature of each child's disability. A specific program would be planned for each child utilizing techniques adapted from the Frostig, Montessori, Dellacato, and Strauss materials, et al, to eliminate or modify the disabilities isolated and enable the child to more easily make a transition from the concrete to the abstract phases of learning.

3. By the identification process and other evaluative procedures to identify at an earlier age pupils with deficiences severe enough to require other types of assistance such as, special class placement, medical evaluation, or home or hospital instruction.

4. During the initial individual parent conferences, develop parent awareness of the child's disabilities and relate these to expected academic achievement levels, and encourage earlier medical evaluations if this is so indicated.

5. By following the types of special programs indicated, help reduce pupil failures in the academic areas and make modifications in pupil behavior, thus reducing the need for special groupings in remedial programs in the earlier grades.

6. To help reduce the severity of emotional problems which contribute to chronic school failure among pupils when the causative agent of such failure is of a physical, cultural, maturational, or other nature.

III. Planning Phase

We had initially planned to do our screening with the kindergarten children at the time of our kindergarten round-up program in the spring of the year. We had felt that this would not inconvenience the parents and we could also obtain the assistance in testing from some of our teaching personnel doing field work in psychometrics. Due to the late date of the project approval, the kindergarten round-up had ended and plans for pupil testing during the summer had to be made. A letter, a copy of which is contained in the appendix, was sent to all parents who had pre-registered their kindergarten children. Parents were asked to return the form at the bottom of the letter and a stamped, self-addressed envelope was enclosed for this purpose. Appointments were made at half hour intervals and the actual testing time with pupils varied from fifteen minutes to the full thirty minutes.

The Walter Knott School had been selected as the site for the experimental group. This school is the largest in our district and has an enrollment of approximately 1200 pupils with six kindergarten classes. Three are morning sessions and three afternoon sessions with a kindergarten staff of three teachers. The Glen H. Dysinger School had been selected as the site for a control group, and since the population of this school is smaller than that at the Walter Knott School, a third school, the Raymond Temple School was included as a site for a control group.

The response from parents was approximately fifty percent from all three schools. Those responding were almost one hundred percent in favor of this type of preschool screening. There were isolated instances of parents who did not believe in testing of any type or who did not believe that any information worthwhile could be obtained by testing. Actually, only four parents refused to allow their child to participate in the testing.

Two teachers in the district, who became aware of the project, volunteered to assist in the testing. These teachers were both working towards credentials in the field of psychometry. The procedure used during the testing was to give the parent a pupil information form, a copy of which is attached, which she completed while the child was being tested. When possible the examiner saw the child in a room adjoining the office so that the child would not feel too great a separation from the parent. In only a few cases was it necessary for the mother to enter the room with the child. When this was necessary the mother was seated at a table where she could not observe the child or the testing materials and completed the form while the child was being tested. As has already been stated, the testing time for the administration of the screening devices ranged from fifteen minutes to thiry minutes per child.

Our initial plans were to obtain a group of approximately one hundred-forty (140) children who were to be divided into an experimental group of approximately seventy (70) pupils and a controlled group of an equal number. These children were to be matched on the basis of the chronological age, sex, the type of deficiency measured, and the socio-economic level to the extent this was possible.

III. Planning Phase - continued

During a three week period we were able to see a total of one hundred sixty-three (163) pupils. Testing included items A, 1, 3, 4, 5, & 6 of the Bender-Gestalt. Items 7 & 8 were excluded because it was felt that these would be much too difficult for a child of pre-kindergarten age to cope with at this age of neuro-muscular development. Item 2 was eliminated because it was felt that the results obtained are not of as much significance in proportion to the amount of time the child would need to complete this item. From the Frostig Developmental Test of Visual Perception we selected subtests I - Eye-Motor Coordination and III - Form Constancy.

We initially dropped three of the one hundred sixty-three (163) pupils who had not responded to the testing situation. We then divided the one hundred sixty (160) pupils into age groups beginning with a 4.6 to a 4.11 range, a 5.0 to 5.5 range, and a 5.6 to 5.11 range. We then computed the mean error score on the Bender for these groups and the average age equivalent on both the Frostig subtests for these three groups.

Table No. 1, shows the Bender mean error scores and the average age equivalent on the Frostig subtests as obtained by our 160 pupils.

Table I

N	C.A.	Bender Mean Error Score	Frostig I Average Age Equivalent	Frostig III Average Age Equivalent
60	4.6 - 4.11	10.33	4.86	3.86
57	5.0 - 5.5	9.14	5.19	4.41
43	5.6 - 5.11	7.86	5.48	4.58

N = 160

On the Bender items selected for use there are, according to the Koppitz[1] scoring system, twenty-one possible scoreable errors. The Frostig[2] norms go down to the four year level age equivalent, so scores were accepted on the basis of the Frostig norms.

Our final criteria for selection of pupils in an experimental or control group was as follows:

A. Age group 4.6 - 4.11
A Bender error score of 10 or greater and one year or more of retardation on either Frostig subtest I or III.

B. Age group 5.0 - 5.5
A Bender error score of 9 or greater and one year or more of retardation on either Frostig subtest I or III.

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1 Koppitz, Elizabeth M, The Bender Gestalt Test For Young Children

2 Frostig, Marianne, Developmental Test of Visual Perception

III. Planning Phase - continued

C. Age group 5.6 - 5.11
A Bender error score of 8 or greater and one year or more of retardation on either Frostig subtest I or III.

D. Or, for all age groups, one or more years of retardation on both Frostig subtests.

Using this criteria we found a total of ninty-two (92) pupils who qualified for participation in the program. During the course of the year, three of these pupils moved while two were dropped because of the severity of their problems. These two were further identified as being possible mental retardates with severe neurological dysfunction. This type of identification was one which we had felt would occur (Objective 3) although it did not occur to the extent that we had felt it might. We did not emphasize this with the control groups.

Our group of eighty-seven(87) pupils is divided as follows:

A. Walter Knott School (experimental group) N = 52 pupils

B. Raymond Temple School (control group) N = 18 pupils

C. Glen H. Dysinger School (control group) N = 17 pupils

From these eighty-seven (87) pupils we were able to obtain thirty-one (31) matched pairs with the matching being done on the basis of:

A. Sex
Twenty (20) pairs are boys while eleven (11) are girls.

B. Chronological Age
The C.A., at time of testing, ranged from 4.8 to 5.7.
The greatest difference existing between children in any pair is two (.2) months.

C. Bender error scores
Bender error scores ranged from 7 to 17.
The greatest error difference between children in any pair is four (4).

Our plans for yearly evaluations were as follows:

A. In the early fall, complete the Frostig battery, subtests II, IV, & V. This information was to be used primarily for the purpose of program planning, not for evaluative purposes.

B. Re-administer Frostig subtests I and II at mid-year. This information was to be used for evaluative purposes as well as for program planning.

III. Planning Phase - continued

C. The end-of-year evaluation was to include the Bender items and Frostig subtests which had been administered initially. This information was for evaluative purposes.

D. Administer an intelligence tests during the year.

Other activities involved in the planning phase included devising the various forms needed for obtaining and compiling the data and purchasing materials which would be available to the teachers in the fall. Very little planning was possible with the teachers due to end of the year activities which normally consume a teacher's time.

IV. Statistical Data Obtained

A copy of the information form completed by the parent during the initial testing session is contained in the appendix. The results of several items are reported below:

A. Fifty-four (54) parents reported their income establishing the group as being drawn from the low-middle to middle economic brackets.

1. Eight (8) reported an income of from $2,000 - $5,000 yearly.
2. Thirty(30) reported and income of from 5,000 - 10,000 yearly
3. Thirteen (13) reported and income of from 10,000 - 15,000 yearly
4. Two (2) reported and income of from 15,000 - 20,000 yearly
5. One (1) reported and income of from 20,000 - 25,000 yearly

B. Fifty-eight (58) fathers reported their occupations with the majority being:

1. Positions of a supervisory nature, skilled labor, semi-professional, sales, and professionals.
2. A minority were in law enforcement, entertainment, and the armed services.

C. Twelve (12) of the mothers reported an occupation other than that of housewife. There was a greater diversity of occupations among the mothers with only three holding a similar position, in sales work.

D. Twenty-seven (27) of the pupils have had nursery school experience:

1. Nineteen (19) for less than one year.
2. Four (4) one year or more.
3. Four (4) for two years or more but less than three.

We met much greater parental resistance in this area than we did in the area of testing as evidenced by the fact that only fifty-eight (58) responses were obtained and four of these did not state an income.

Attempts to match pupils on the basis of the socio-economic level were dropped because of the lack of response and because there did not appear to be too great of a spread in terms of reported incomes. Another study might well find such data to be quite pertinent however, in terms of parental acceptance, awareness, and adjustment to children's problems as related to income brackets. It might also be interesting to explore the nursery school experience of pupils since many children were reported as attending only one, two or three weeks of nursery school.

IV. Statistical Data Obtained - continued

The data shown in Table 1, page 5, indicates that subtest III, Form Constancy, of the Frostig Test is generally more difficult than in subtest I. During the administration of this subtest (III), a great deal of time was spent with the children, to be sure that they could identify the plates, which accompany the test, and could distinguish between forms. At this time, it was felt, by the examiners, that the children could verbally identify and distinguish between the forms shown. The forms[1] used are a circle (ball) and oval or egg-shaped figure, a square (box) and rectangle. These are used for demonstration purposes.

In the actual testing however, the pupils who obtained the best scores did so by omission. Circles or squares which differed markedly in size or direction (a square tilted at an angle) were unmarked. Also, unmarked were the ovals and rectangles which pupils were obviously able to eliminate as being improperly shaped.

Children with the lowest scores marked all forms even though many had previously been able to respond accurately to the plates. In the opinion of the examiners, it was questionable whether this type of performance occurred due to an inability to correctly discriminate; or, whether this might be due to attempts to please; or, because of a compulsive, perseverative form of reaction - - which is not too uncommon at this age - - when the child is presented with pictures and crayons. It was felt that the scores on this particular subtest would show the greatest gains during the year of training.

Table 2, shows the data obtained from both the experimental and control groups (N =62) on the initial administration of the Bender and the Frostig subtests. This data again indicates the difficulty experienced by pupils on subtest III of the Frostig Test.

Table 2

1st Administration of Bender Items and Frostig Tests I and III

Group	BENDER Error Score (Mean)	FROSTIG I Total Raw Score	FROSTIG I Mean Raw Score	FROSTIG I Mean Age Equiv.	FROSTIG III Total Raw Score	FROSTIG III Mean Raw Score	FROSTIG III Mean Age Equiv.
a	11.38	209	6.74	4.5	-2	.065	3.2
b	11.52	212	6.84	4.5	49	1.58	3.83

a = Experimental
b = Control

[1] Frostig, Marianne, Developmental Test of Visual Perception, Administration and Scoring Manual, pp 14.

IV. Statistical Data Obtained - continued

After school had begun, we administered the balance of the Frostig battery, subtests II, IV and V. This was done during October, 1965 and the results were intended primarily for providing teachers with information for program planning.

In mid-year, subtests I and III of the Frostig were re-administered. The purpose was to measure growth and again, to provide teachers with data for program planning.

Table 3 (Experimental Group)

Comparison of raw scores and age equivalent scores between 1st and 2nd administration of Frostig subtests I and III

Time of Administration	FROSTIG I Total Raw Score	FROSTIG I Mean Raw Score	FROSTIG I Mean Age Equiv.	FROSTIG III Total Raw Score	FROSTIG III Mean Raw Score	FROSTIG III Mean Age Equiv.
July	209	6.74	4.5	-2	.065	3.2
February	303	9.77	5.4	103	3.3	4.2

Table 3, compares the results of the first administration and the second. Approximately a seven month growth period has occurred between the two administrations.

During the July testing period the mean chronological age of the children was four years six months (4.6). As a group, only a one month discrepancy existed between their mean C.A. of 4.6 and mean age equivalent, on subtest I, of four years five months (4.5). A discrepancy of one year four months (1.4) existed however, between the mean C.A. of four years six months (4.6) and the mean age equivalent of three years two months (3.2) on subtest III. By the month of February, the mean C.A. of the group was five years three months (5.3). The mean age equivalent on subtest I now exceeded the mean C.A. by one month (.1) while a gain of three months (.3) is seen between the C.A. and A.E. on subtest III.

Table 4 shows a comparison of Frostig test scores, subtests I and III, administered at the beginning of the project and at the end, May, 1966. Scores reported are the mean raw score and mean age equivalent for pupils in both the experimental and control groups. The total number, at this time, is fifty-eight (58) due to uncontrolled absences.

IV. Statistical Data Obtained - continued

Table 4

Comparison of beginning and ending scores (July, 1965 - May, 1966) on Frostig subtests I and III. Data is on both experimental and control groups. N = 58

	FROSTIG I				FROSTIG III			
	July		May		July		May	
Group	Mean Raw Score	Mean Age Equiv.	Mean Raw Score	Mean Age Equiv.	Mean Raw Score	Mean Age Equiv.	Mean Raw Score	Mean Age Equiv.
a	6.72	4.52	10.17	5.42	-0.0-	3.15	5.17	5.07
b	6.96	4.59	9.13	5.23	1.44	3.82	4.58	4.89

a = Experimental
b = Control

The data in Table 4, indicates that pupils in the experimental group obtained lower scores on both subtests of the Frostig at the time of initial administration but showed greater growth at the time of the final administration.

While the gains noted above favored the experimental group in both cases there was no statistical difference observed. Dr. Patricia Simmons of the Orange County Superintendent of Schools Office computed this data.

Frostig Sub-Test I

Based on Raw Score Data

N = 29

C.R. = .909 (no significant difference)

Frostig Sub-Test III

Based on Raw Score Data

N = 29

C.R. = 1.291 (no significant difference)

Table 5 compares the experimental and control groups on the basis of beginning and ending error scores on the Bender test. Scores are reported as mean error scores. A decrease in the error score is associated with improvement.

Table 5

Group	Bender Mean Error Score (July '65)	Bender Mean Error Score (May '66)
a	11.20	6.17
b	11.34	6.20

a = Experimental
b = Control

Information provided here shows that both groups improved in their ability to reproduce the selected Bender designs with a slightly better gain being seen in the control group.

IV. Statistical Data Obtained - continued

Project plans had called for a measure of intelligence using the Kuhlmann-Anderson test which was administered only during the third quarter of the year. This was administered to pupils in both the experimental and control groups, N = 60. Test results tend to verify suspicions that group tests of intelligence have little value at the kindergarten level.

The Centralia District has used the Lorge-Thorndike Intelligence Test at the fifth grade level in conjunction with the state required testing program. The mean I.Q. of fifth grade pupils has been consistently measured at a level of 103-105. The mean I.Q. on the sixty (60) kindergarten pupils was 119. Twenty-one (21) pupils fell within the 90-110 ranges while eighteen (18) obtained scores of 130 and above. The lowest score obtained was one score in the 85-89 range. Computing a product moment correleation from ungrouped data between Kuhlmann-Anderson IQ scores and Bender error scores yielded an r= -.18.

This was the extent of the use of data obtained at this time. In summarizing this data it can be said that there are many areas of interest that were not fully explored. The statistical data itself indicates greater growth among pupils in the experimental group on the Frostig best materials although their growth is not statistically significant.

V. Classroom Implementation

Implementation of the program in the classroom began with in-service training with the teachers. Since there had been no time for such meetings in the spring this phase had to be delayed until school opened in September. It is hardly necessary to point out that this is not a recommended procedure. The teachers now feel that they could have prepared themselves much better during the summer and could have saved a great deal of valuable time in the fall.

In-service training consisted of weekly meetings with three teachers, principal, vice-principal, guidance consultant, and project director. At these meetings the teachers discussed their program in terms of how project activities could be inserted without adding to or eliminating routine kindergarten activities. Ideas and/or activities were introduced singly. These were tried for a week by the teachers and evaluated at the next meeting by the entire group. These weekly meetings continued for about six weeks by which time the teachers felt more familiar with the nature of the project and its goals.

Activities carried out in the classroom were those which were considered basic to the program while others were introduced by the guidance consultant or suggested by the teachers. These secondary activities were introduced as the personnel made observations about the pupils and devised activities which would supplment the basic program. Activities were also carried out in two ways:

A. Those carried out under direct supervision.

B. Those selected by pupils from the "interest" center.

The Frostig program was considered to be a basic part of the project. This was carried out in conjunction with the math exercises and the teachers felt that the pupils rapidly grasped the concepts required. Approximately five minutes a day was spent with Frostig exercises which were presented to the pupils about three times a week. Two of the teachers felt that the material dealing with form constancy was the most difficult for the children while the third teacher found that her group had most difficulty with materials dealing with figure-ground relationships. All three teachers rated the Frostig materials as being of high interest level to the pupils and all felt that this material was most successful in developing eye-motor coordination and in helping pupils to learn differences between right and left.

The Winterhaven materials were also considered to be a basic part of the project. A description of the Winterhaven program, as it was given to the teachers, is contained in the appendix. Each classroom had a jump board, walking board, and balance beam. In addition, teachers were provided with manuals, templates, and extra chalkboard areas for use in tracing and copying. While the children enjoyed the use of the various boards the teachers indicated that resistance was most noticeable to the tracing and copying activities. The boards were first used under close supervision inside the classroom. The pupils soon learned the techniques involved and the boards were then shifted to the playground where they were used about two times each week during a twenty minute period. The tracing and copying activities were used three to four times a week in the interest center. One teacher had most success in using this material when she encouraged the pupils to "make-a-picture" after copying and tracing activities were ended.

V. Classroom Implementation - continued

While the Frostig and Winterhaven materials constituted the "backbone" of the project many other activities were introduced which were felt to be of value in developing skills which these two programs purport to develop. Among these other activities were:

A. Montessori stilts. These are merely 8" x 8" cubes with a hole drilled through which a rope is passed. The child holds the rope and walks as if he is using stilts. This rated as a high interest item with the pupils. It was an outdoor activity and pupils were given choice in their use of the stilts.

B. Footprints were painted on the apron leading into the classroom and on the apron around the playground. Right prints were painted yellow and left prints painted white. A 14" stride between prints is felt to be about correct for young children. The teachers used the prints for developing directional orientation and in developing rhythm. This was felt to be a good activity for teaching right - left movement.

C. Commercial hobby horses were provided and were used to develop coordination in movement. Teachers used these in rhythm activities and had pupils walk, prance, and gallop. This activity also had a high interest level for pupils.

D. Perception blocks were found to be helpful in teaching pupils to count, and to copy designs. Teachers found that the pupils become quite adapt at copying designs although the finished product was often rotated.

E. Cut-out alphabet blocks, upper and lower case letters were purchased and these had a high interest level. Pupils traced around the blocks and then colored in the letters.

F. Sandpaper numbers were made which pupils traced and copied. This was also a high interest item. Teachers felt that the numbers and blocks were quite valuable in helping pupils to develop concepts as well as in developing coordination.

In the appendix is contained a photographic lay-out of all the materials used with a brief description of each item. The descriptions given above are of materials used most frequently and found to be of high interest level to the pupils. Much of this material was made by the guidance consultant or by district maintenance personnel. Most of the items can therefore be made rather inexpensively and modifications can be readily made to fit the needs of any particular group of children.

V. Classroom Implementation - continued

In evaluating the project the teachers felt that more structure should be provided to ensure that the pupils, most in need of such activities, would receive an adequate amount of training. All teachers found that, when an activity was a "pupil choice" type of activity, it was avoided by those who experienced most difficulty with it. Since the pupils in the experimental group were spread throughout the six kindergarten classes the teachers found that it was easier to include all pupils in the activities. This led to boredom on the part of some pupils who had little or no need for certain activities and the teachers felt that one solution might be to take the pupils out of the class for periods of training rather than to isolate them within the larger group. It was felt that grouping of such pupils would be unsatisfactory, especially if a reduction in class size was not effected. The teachers also felt that a testing program should include all children rather than only those whose parents elect to have tested since some pupils not identified appeared to have as many problems as did those who had been screened.

VI. Summary

The purpose of this project was to identify pre-kindergarten pupils who, when compared with other children of the same age and sex, evidenced problems in the area of visual perception. Tests used to measure such deficiencies were the Bender test (Items A-1-3-4-5-6) and the Frostig Test of Visual Perception (sub-tests I and III).

Matched pairs were selected from the total group screened and an experimental and control group established. The total number of pupils assigned to these two groups was sixty-two (62) with final results being tabulated on fifty-eight (58).

The experimental group was housed in the Walter Knott School while the control groups were housed in the Raymond Temple and Glen H. Dysinger Schools. Control groups were not identified to their teachers. The experimental group was spread among six kindergarten classes taught by three teachers.

Emphasis in the experimental group was placed upon the use of Frostig training materials and the Winterhaven training materials. Many other activities were used which related to the development of eye-motor coordination, laterality balance, and visual perception. All other kindergarten pupils housed in the Walter Knott School, as well as those in the experimental group benefitted from these experiences.

The project started with about a six week in-service training program with the teachers. During this time they were given ideas to try and evaluate. Following this period, meetings were held with them by Mr. Williams, who consulted with them and provided materials for the classes throughout the year.

During the course of the year the pupils were tested with the balance of the Frostig battery and the Kuhlmann-Anderson test. A mid-year evaluation was made using Frostig sub-tests I and III. An end-of-year evaluation used the items which had been initially administered from the Bender and Frostig tests. Gains in favor of the control group were noted on the Bender test while gains on the Frostig sub-tests were in favor of the experimental group. The critical ratios of .909 and 1.291 were, however, not statistically significant.

VII. Conclusions

The results obtained from this project are encouraging in many respects and would appear to justify repeating this type of a project with kindergarten pupils.

It would be better however, to do the initial testing after the school year has started in order to include all pupils. This would then make possible the early identification of all pupils with severe problems and subsequent earlier placement in a special program. Teachers felt that many pupils with rather severe problems were missed because parents did not respond to the initial request. This was one of the teachers' recommendations although, they would not like to group the "problem" children into one class without a substantial reduction in class size.

Another recommendation from the teachers was that they be given more direction and help in structuring the program. This could be done through in-service programs and workshops and need not require full-time consultancy help. General consultants as well as guidance consultants could be used in this respect. More time would also be desireable in terms of supervision within the classroom by consultants.

Such a program should probably be a long-range one since it involves changing teacher and parent concepts. Many of the activities used here could undoubtedly be used on a larger scale and could replace some activities which are currently considered to be necessary kindergarten activities. The substitution of activities would be a much better solution than is the "adding-on" technique. This type of a program should also be developed along the lines of a longitudinal study. Undoubtedly, many of the pupils (some not included) who appear to be rather trouble-free, will exhibit learning problems when confronted with the more formal program offered in the primary grades.

Through teacher observations it is also possible to obtain a good measure of the interest level which certain activities and materials have for pupils. This should certainly be considered in program planning because of the motivational factors involved.

Several parent meetings should also be scheduled with some coinciding with open-house programs, Public Schools Week, etc. While this would not be as necessary if a school planned to initiate such a program gradually it probably would be appropriate if any infromation were to be requested from parents or if parents were asked to aid pupils with materials sent home. Some parents appear to be quite suspicious of any innovations and the very nature of activities being carried out seems to increase their suspicions. Recent inquires indicate that some parents equate these activities with those used in classes for retarded children.

VII. Conclusions - continued

Test results obtained would indicate that the Bender test could be eliminated as well as group intelligence testing. Teachers could utilize the Frostig test to greater advantage if they were taught to administer and score it. If the Winterhaven materials were to be used this test could also be used since it is appropriate with small groups as well as individuals. A check-list of physical skills could also be developed in order to measure progress in hopping, skipping, jumping, and similar activities.

WJM:jbm
May 31, 1966

APPENDIX

Letter to Parent (No. 1)

Letter to Parent (No. 2)

Pupil Data Sheet

Frostig Perceptual Training Materials

Winter Haven Training Information

Selected Classroom Activities

Dear Parents:

You have probably read various magazine and news articles recently which discuss learning problems of children, especially in the area of reading. A great deal of interest is being shown in how to find these children at an early age and plan a program for them which will make them more successful in school.

The Centralia School District has received a grant for next year enabling us to carry out a study at the kindergarten level. We plan to test some of the pre-school children in order to find those who might have difficulty in learning because of poor coordination, mixed eye-hand dominance and other problems that cause reading difficulty. We then plan to work with these children during their kindergarten year to see if we can help them to overcome some or all of their problems. We hope that this will then make these children more successful when they begin first grade activities.

We will need to test these children during the summer school period with the tests taking about one-half hour to give to each child. We would schedule the children at half-hour intervals and then make an appointment for you to bring the child to school for testing.

Will you please complete the attached form and return it to our office so we can begin setting up the appointments. If you have any questions about this you may call Mr. Williams or me at the District Office - 521-7272.

Thank you for your cooperation.

Sincerely,

Wm. J. Morgan

Wm. J. Morgan
District Psychologist

WJM:jbm

I would / would not be willing to make an appointment.

I will / will not be available during the entire summer school period (6/28-7/30)

I will be available during the following period:

_____

Please give dates when you will be available

Phone:_____ Signature:_____

Child:_____ School:_____

Dear Parents:

Recently we sent out the enclosed letter to parents of children who had pre-registered for kindergarten.

We have received many calls from parents who may have registered their children after the kindergarten round-up day and wished to have their child tested also. We are sending out the letter again for the benefit of those who missed it the first time. If you did receive one and didn't get around to returning it you now have a second opportunity.

Thank you for your cooperation.

Sincerely,

Wm. J. Morgan

Wm. J. Morgan
District Psychologist

WJM:er
Enclosure

CENTRALIA SCHOOL DISTRICT
6625 La Palma Avenue, Buena Park, California

N.D.E.A.
Kindergarten Research Project
Pupil Data Sheet

Name of Child: _____
First Middle Last

Birthdate: _____ Sex _____
Year Month Day

Position in Family (1st - 2nd - 3rd - etc.) _____

Number of Children in Family _____

Father's Occupation: _____

Mother's Occupation: _____

Family Income (approximate) Circle One:

$2-5,000	$5-10,000
10-15,000	15-20,000
20-25,000	25,000-+

Did this child attend a nursery school, church school etc. at any time? _____ Yes _____ No

How Long? _____
Years or Months

At what age(s)? _____

Is a Language, other than English, used in the home? _____ Yes _____ No

If another language is used, what part of the time is it used? (Circle one)

Very Seldom Often Most Often

WJM:rb
6/29/65

CENTRALIA SCHOOL DISTRICT
6625 La Palma Avenue, Buena Park, Calif.

FROSTIG PERCEPTUAL TRAINING MATERIALS

The Frostig Developmental Test of Visual Perception has been developed to provide a measure of a child's performance in five areas of visual perception:

Sub-test	I.	Eye-Motor Coordination
Sub-test	II.	Figure-Ground Relationship
Sub-test	III.	Form Constancy
Sub-test	IV.	Position in Space
Sub-test	V.	Spatial Relations

All pupils in our control and experimental groups have been tested on sub-tests I and III and exhibit at least one year of developmental lag on one or both sub-tests.

During the first month of school, all pupils in the experimental group will be administered the remaining three sub-tests (II, IV, V).

That portion of the experimental program devoted to the use of Frostig materials will depend upon pupil deficiencies in the various areas measured.

Teachers are to be provided with Teacher's Guides which accompany the Frostig Program for the Development of Visual Perception. Following consultation with the guidance counselor, Mr. Williams, teachers will analyze test results and select training items appropriate for individual pupils.

A program of test-teach-re-test-etc. is to be followed in this phase of the program.

INSTRUCTION DIVISION
WJM:jbm
September/1965

CENTRALIA SCHOOL DISTRICT
6625 La Palma Avenue, Buena Park, California

A PERCEPTUAL TESTING - TRAINING HANDBOOK FOR FIRST GRADE TEACHERS

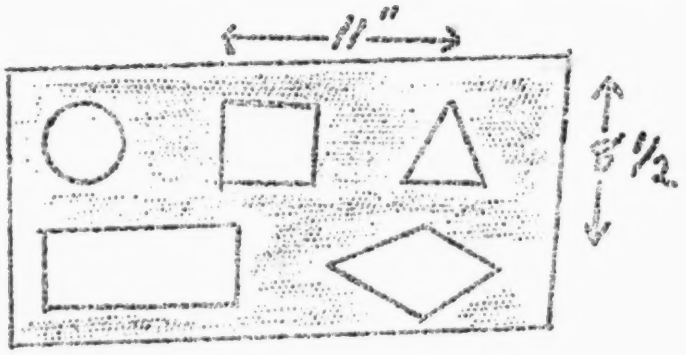
Florence E. Sutphin, M.A.
Winter Haven Lions Research Foundation, Inc.

The Children's Perceptual Test is used quite frequently by the psychologist in the Centralia District as a part of the battery used in evaluating the performance of primary aged children, children suspected of having neurological involvement, and children suspected of being mentally retarded. The training program is recommended to teachers and those portions of the program deemed, by teachers, to be appropriate to the needs of individual pupils are used in the classes for retarded and educationally handicapped pupils as well as in regular classroom situations. It was felt that the kindergarten pupils in our experimental population could benefit from this type of perceptual training.

The training techniques recommended by the Winter Haven group and selected for use in the kindergarten experimental group are described on the following pages.

Materials Needed

1. Master Template



2. Paper, 8½ x 11

3. Pencils

Instructions, General

1. Stress importance of pressing the side of the pencil point against the side of each of the cut out areas being used.

2. Once started, the pencil point should remain on the paper until full count has been reached.

3. Except for the circle, pupils are to bump each corner as they come to it. Corners are not to be "rounded-off."

Instructions, Specific

1. Starting with the circle, pupils trace around the edge of each form ten (10) round trips. (This number can be increased as skill improves.) Pupils do not stop or raise pencil while tracing. Tracing is in unison by the teacher's count.

2. Remove template. Trace over the samples just made. Urge pupils to stay on the line and tracing is again done in unison by teacher count.

3. Turn sheet of paper over.
Pupils draw the five (5) forms they have just completed. "Draw them in the same size and in the same position as they did before." Do not allow pupils to turn their papers over to see how they had traced and/or positioned their forms.

4. Place the master template over the drawings and trace around each form one or more times. This gives an indication of size constancy and concludes the training session.

It is recommended that these sessions take place about three (3) times a week or until a majority can approximate the size, shape, and position of the five forms.

An additional exercise is one in which pupils copy four (4) circles, squares or triangles or three (3) rectangles, horizontal, or vertical diamonds across the top of their page and duplicate these by drawing them free hand.

INDIVIDUAL TRAINING, Form Templates

Materials

1. Individual Templates, single form

2. Chalk board

Instructions. General

1. Small groups (4-5 pupils) for work at chalk board.

2. Center of template should be held at eye-level.
(Eye level: have pupil stand 12" to 15" from board. Mark x on board in a line from the tip of child's nose= eye level.)

3. Pupil holds template by pressing palm of his hand on long end of plate.

Instructions. Specific

1. Place chalk at top of circle.

2. Move chalk in counter-clockwise direction.

3. Pupil should "feel" edge of circle.

4. Pupil should not lift chalk from chalkboard while tracing.

5. Pupil traces around circle (or other form) twenty (20) times without stopping.

6. Remove template and re-trace twenty (20) times - - try to stay on lines previously made.

7. Erase form.

8. Pupil is asked to make one just like the one he has traced and re-traced. Make it the same size as one he traced.

9. Using a different color of chalk, place the template over the form the pupil has made and have him trace one line over his free hand form. This gives an indication of the perception of size.

EXPERIMENTAL GROUP - INDIVIDUAL TRAINING - continued

10. Each session lasts about ten minutes and the suggested sequence is:

1st. day = circle, square, triangle
2nd. day = square, triangle, rectangle
3rd. day = triangle, rectangle, horizontal diamond
4th. day = rectangle, horizontal diamond, vertical diamond

repeat procedure - - circle, square, triangle, etc.

Note:
While no specific recommendations are made in the training manual, teachers can adapt or modify the program as given to needs of their group.

For example, the chalkboard sessions can be morning and afternoon sessions instead of single daily ones.

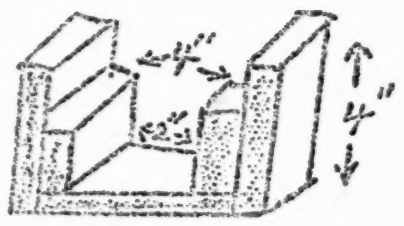
Also, a seat work activity could be used with small groups or individuals by hhaving pupils work at their desks with paper and pencil, reinforcing the chalkboard ttraining program.

I. Walking Beam

Materials

1. One 10' or 12' 2 X 4.

2. Three supports as per diagram.



Instructions

1. 4" surface of board is used first until skills are developed enabling the use of 2" side.

2. Positon child at one end of board.

3. Head and shoulders are erect.

4. Eyes are fixed on an object that is at eye-level at the opposite end of the board.

5. Child should be barefoot.

6. Child should walk across board = heel to toe.

7. Arms are first:

   a. straight out at sides.
   b. straight up
   c. straight down at side.

8. One session = Five (5) round trips.

The child may also walk the beam backwards.

An innovation here is to have him stop when he thinks he is near the end. You may then see how well they judge their distance.

EXPERIMENTAL GROUP

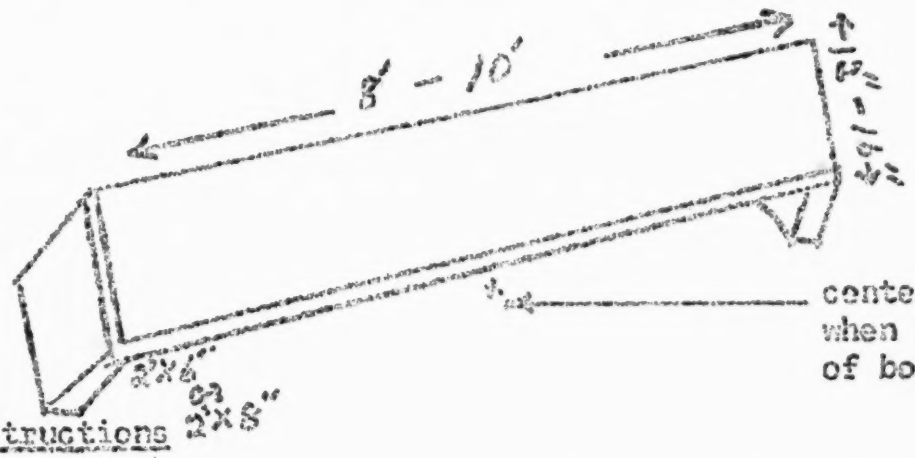
CLASSROOM EQUIPMENT -

II. Jump Board

Materials

1. 8' strip of plywood 5/8" or 3/4" thick and 12" to 16" wide.

2. Two blocks 2" x 6" or 2" x 8" (width of plywood strip) to be fastened securely to ends of plywood strip.



Instructions

1. If balance is poor, hold pupil's hand while he is developing this skill.

2. Pupil starts at one end of board and jumps to other end making at least two (2) jumps at each position.

3. When the end of the board is reached the pupil turns and returns.

4. Four to five round trips = one session.

5. Jumping is done using three body positions.

   a. with arms extended straight out from shoulders.

   b. with arms extended up from shoulders.

   c. with arms hanging straight down and palms touching sides of legs.

6. An eye-level point should be selected at the opposite end of the board as with the "walking beam."

CLASSROOM EQUIPMENT

III. Balance Board

Materials

1. One 16" x 16" board, 1" thick.

2. Three posts:

   a. 1 = 3" x 3"
   b. 1 = 4" x 4"
   c. 1 = 5" x 5"

3. Bolt to be counter-sunk on board surface.

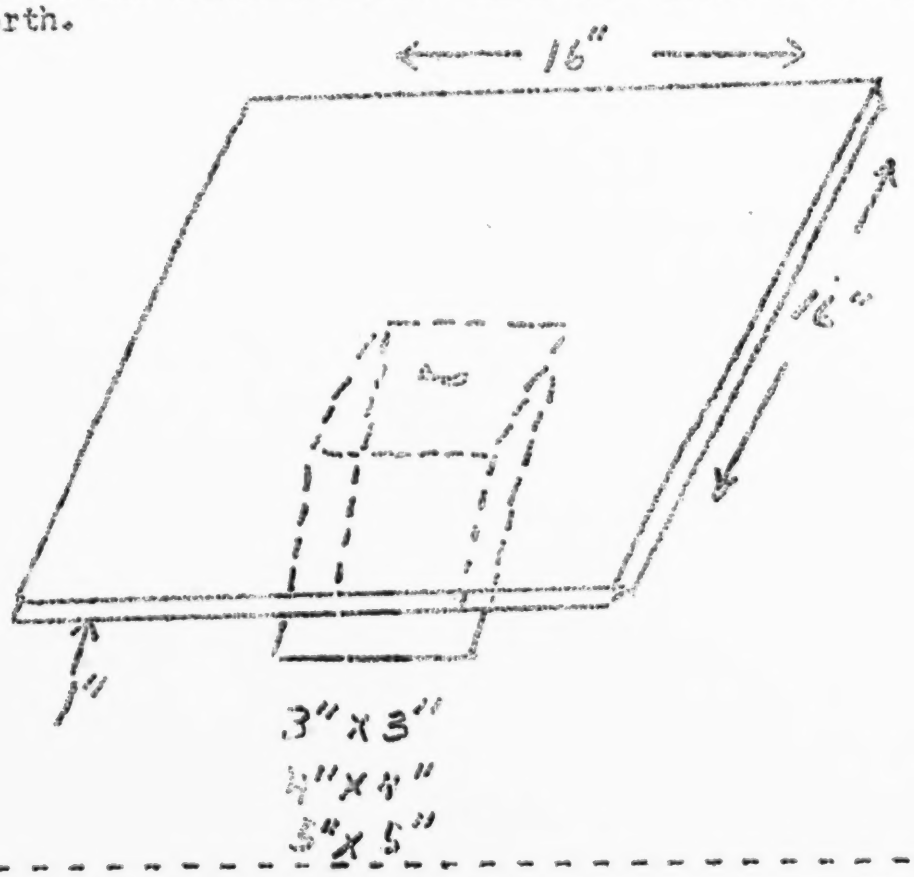
4. Non-slip strips or covering over board surface.

Instructions

1. Balancing skills are developed with use of the first 5" x 5" post. Size of the post is diminished as skill increases.

2. An eye-level point is selected as in walking beam and jump board.

3. Pupil extends arms out from shoulder and rocks from side to side ten (10) times then back and forth ten (10) times then alternately side to side and back and forth.



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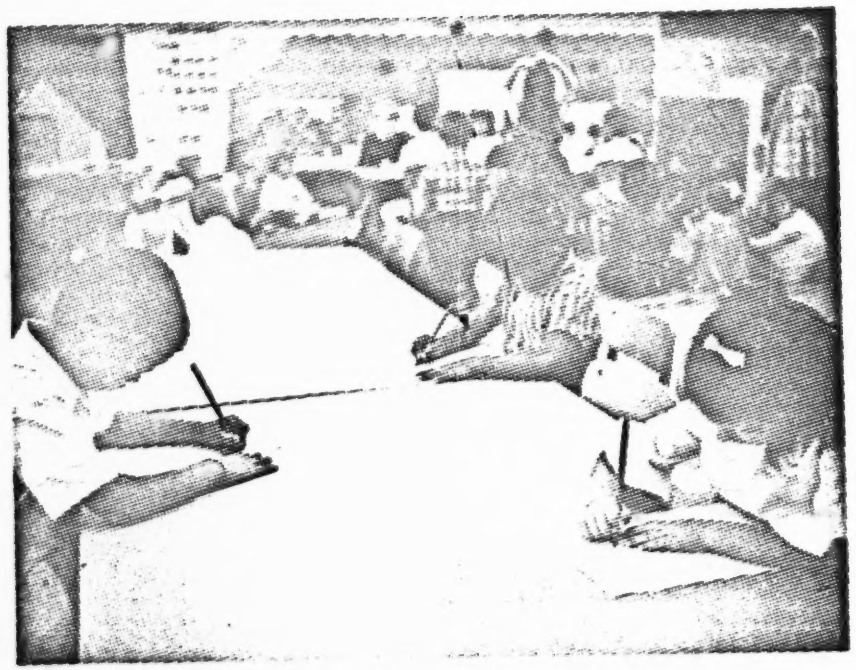
THE

BASIC PROGRAM



Frostig exercises

Winterhaven templates

WINTERHAVEN MATERIALS

Balance Beam

Walking Board

Jump Board

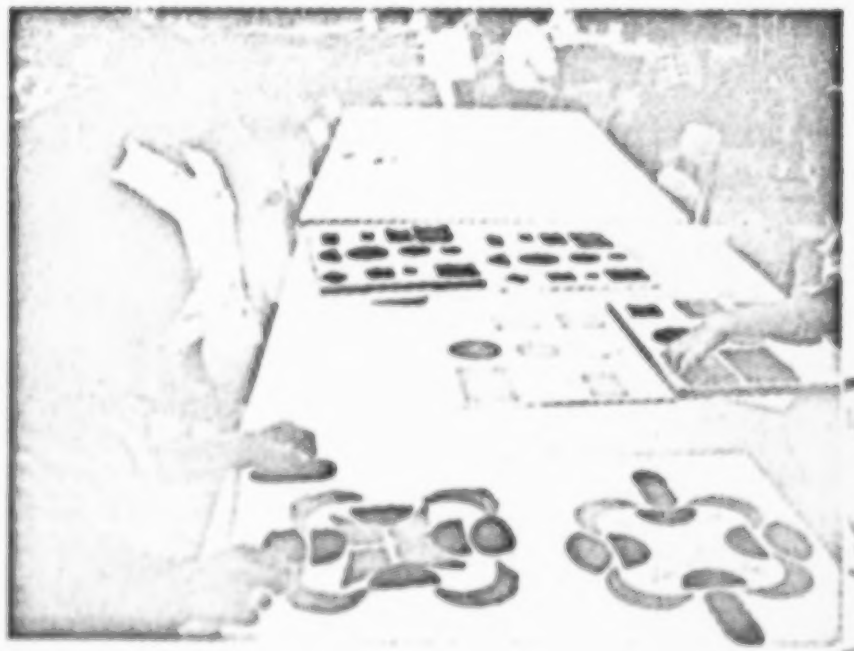
RHYTHM, BALANCE, AND COORDINATION

Directional
Orientation
and
Rhythm

Montessori Stilts
for
Developing Balance

Hobby Horses
for
Coordination in Movement

DIRECTED ACTIVITIES



Felt Patterns

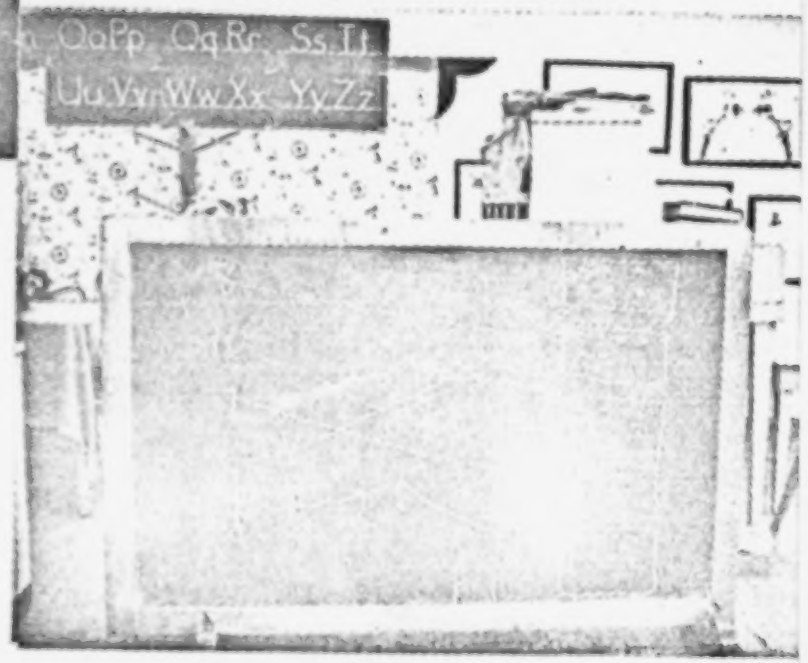
Perceptual skills are taught through duplicating patterns. The original construction paper pattern is duplicated with felt cut-outs placed on celotex boards.

Dominoes

teach

number concepts and...

....numerals.



INTEREST CENTERS

for

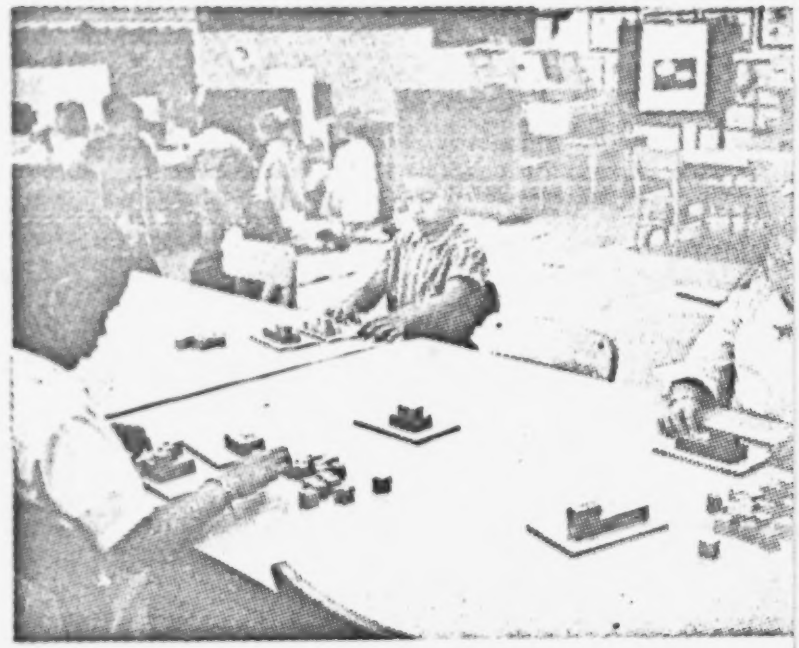
SELF-DIRECTED ACTIVITIES

Arithmetic Cut-Outs

Made of plywood and pegs. The numbers are raised with glue and glitter. The sides are cut to match in

Electric Board

Made of file folder box and chipboard. Battery operated. Different programs are stored inside.

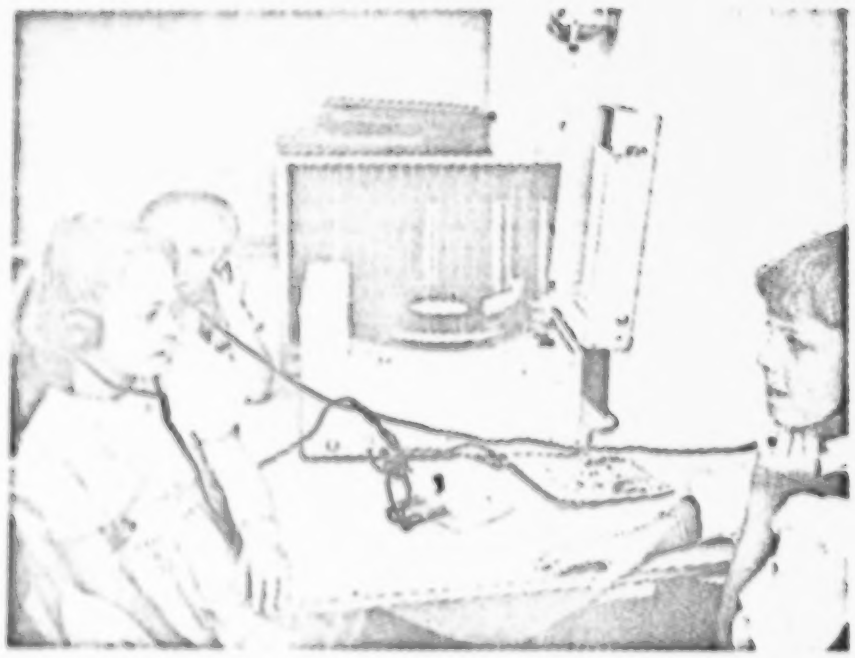


Perception Blocks

One-inch cubes glued to plywood board. Student duplicated pattern with loose blocks on blank board.

AUDITORY AND VISUAL

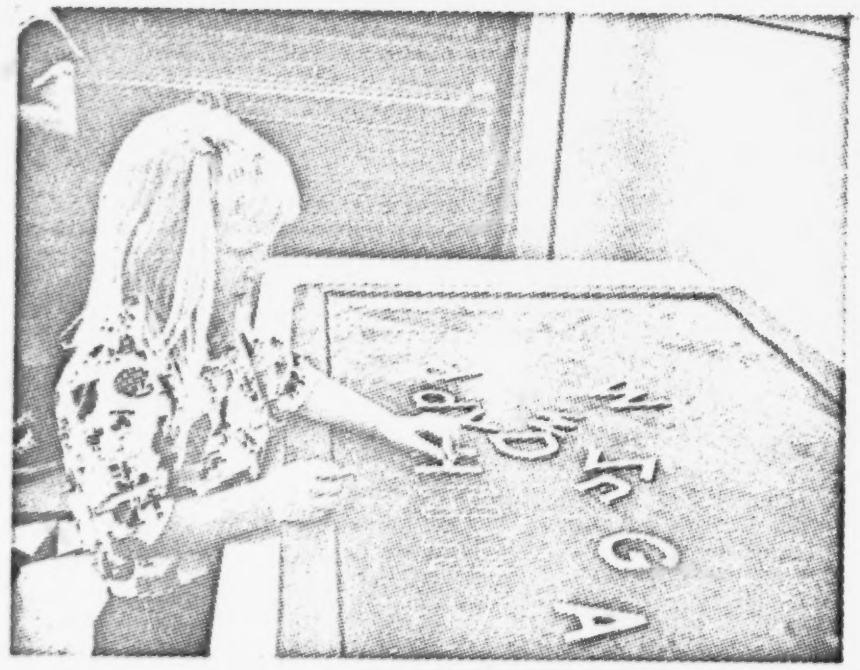
Listening Center



Recordings of

- Rhythm
- Directionality and Orientation
- Sound Associations

Visuo - Motor



Alphabet Tracing

- names and letters
- also traced on paper and colored with crayons